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Published in:
Transactions of the Institute of British Geographers

DOI:
[10.1111/tran.12191](https://doi.org/10.1111/tran.12191)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Thomas, M. J., Mulder, C. H., & Cooke, T. J. (2017). Linked lives and constrained spatial mobility: the case of moves related to separation among families with children. *Transactions of the Institute of British Geographers*, 42(4), 597-611. <https://doi.org/10.1111/tran.12191>

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Linked lives and constrained spatial mobility: the case of moves related to separation among families with children

Michael J Thomas¹ , Clara H Mulder¹ and Thomas J Cooke²

Following considerable social and demographic change over the past six decades, macro-social theories have attempted to explain contemporary society through trends of weakening traditional institutions (e.g. state, church and family) and certainties (e.g. life-long full-time work and marriage) and growing self-articulation, individualisation, destandardisation and uncertainty. At the same time, new theories and discourses on population movement have emerged, in which emphasis is placed on mobility as both an empowering personal choice and a dominant process of modernity. The contemporary ubiquity of separation, and the corresponding rise of single-person and lone-parent households, is often proposed as one of the clearest articulations of instability, individualisation and weakening of the family. However, through regression-based modelling of geocoded British Household Panel Survey data, we use the compelling case of moves related to separation among families to demonstrate how: (1) links between related individuals can simultaneously trigger, shape and constrain (im)mobility; (2) linked lives can intersect in important ways with social, institutional and geographical structures; and (3) linked post-separation (im)mobility outcomes can often contradict individually-stated pre-separation preferences. Controlling for a range of multilevel characteristics, we find significant gender distinctions, with fathers more likely to leave the family home than mothers, and mothers less likely to break with post-separation familial proximity than fathers. Structural factors including housing-market geographies and population density are found to further shape these (im)mobility patterns. Together, our empirical analysis suggests that family dissolution will rarely herald a period of heightened individualisation, self-determination and unencumbered mobility. Indeed, a wider appreciation of the rise of non-traditional households, their complex linked lives and associated constraints could contribute to more realistic explanations of modern (im)mobility patterns and processes.

Key words spatial mobility; separation and divorce; linked lives; gender; housing; Great Britain

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Revised manuscript received 20 April 2017

Introduction

Over the past 60 years Western nations have witnessed huge social change, with macro theories from the Second Demographic Transition (Lesthaeghe and van de Kaa 1986) to the 'risk society' (Beck 1992) emphasising the weakening of traditional institutions (e.g. state, church and family) and certainties (e.g. life-long full-time work and marriage) and the proliferation of self-articulation, individualisation and diversity. The growth and widespread acceptance of various non-traditional households – e.g. non-marital and post-separation cohabitation, living apart together, same sex, step and lone parent households – is often proposed as one of the clearest articulations of this process. Indeed, in England and Wales, official

marriage, divorce and mortality statistics show 42 per cent of marriages now end in divorce (ONS 2013), while almost half of divorces occur in families containing children under 16 years of age (ONS 2012). Perhaps unsurprisingly, this apparent shift towards greater individualisation and family instability has given rise to fundamental questions about the significance of individuals' links to 'the family' in contemporary populations (Beck and Beck-Gernsheim 2004).

The rapid social, economic and technological changes of the past decades have also fed through into new theories and discourses on population movement. For instance, the rise to prominence of the 'new mobilities paradigm' (Cresswell 2006; Hannam *et al.* 2006; Sheller and Urry 2006; Urry 2007) has heralded a plethora of studies that tend toward a view of mobility

The information, practices and views in this article are those of the author(s) and do not necessarily reflect the opinion of the Royal Geographical Society (with IBG). ISSN 0020-2754 Citation: 2017 42 597–611 doi: 10.1111/tran.12191

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as an increasingly dominant and empowering process of late modernity. Yet, empirical trends in population data for the USA and UK (Champion and Shuttleworth 2016a 2016b; Cooke 2011 2013), and many other Western contexts (Bell and Charles-Edwards 2013), show residential mobility/migration propensities across a range of geographical scales have been at least constant, and very often in sustained decline. As such, assumptions linking late modernity to increased mobility appear incorrect, at least in the context of residential moves within countries.

Where mobility/migration is often deemed crucial for such things as educational, housing and occupational progression (Clark and Dieleman 1996; Fielding 1992; Hensen *et al.* 2009), and often forms a central component of place-based policies in areas like social mobility strategy and neighbourhood renewal (van Ham *et al.* 2012), the ties and constraints associated with increasingly diverse and destandardised households appear worthy of far greater academic and policy attention. Recognising that long-standing neoclassical theories of migration (e.g. Sjaastad 1962) are very much a product of their time, more realistic explanations of contemporary macro patterns of mobility, immobility and demographic restructuring more broadly will require an acknowledgement of contemporary family complexity (Thomson 2014), linked lives and associated constraints. Against the background of debates on individualisation, self-articulation, family instability and spatial (im)mobility, we apply regression-based models to geocoded British Household Panel Survey data to explore the compelling case of moves related to separation among families with children. In so doing, we demonstrate that:

- 1 the links between related individuals can simultaneously trigger, shape and constrain (im)mobility;
- 2 linked lives can intersect with social (e.g. gendered distinctions in caregiving), institutional (e.g. social housing sector) and geographical (e.g. local housing markets and post-separation locational 'trade-offs') structures; and
- 3 linked post-separation (im)mobility outcomes often contradict individually-stated pre-separation preferences for (im)mobility.

While a need for brevity requires us to focus on a single case, the themes we present are of relevance to other areas of pressing social and policy interest (e.g. informal support within families to cope with trends like population ageing or the difficulties faced by recent immigrants). As such, a wider acknowledgement of complex linked lives and constrained spatial mobility could help deliver new insights within a broad range of inherently socio-geographical issues.

Background

With regards to 'choice' and constraint-driven (im)mobility, recent conceptual contributions have pointed to the significance of interactions between life-course developments of related individuals (e.g. parents, partners, children and friends) and the structuring influence of societies' social, economic, cultural and geographical systems, as well as the institutions and activities of collective actors like the state (Bailey 2009; Coulter *et al.* 2016; Findlay *et al.* 2015; Mulder and Cooke 2009). While the majority of empirical literature on mobility/migration remains somewhat behind on these points, the linked lives and constrained outcomes of disbanded families present a clear case where important intersections with a number of broader structuring forces can be revealed.

Expectations for linear housing, educational, occupational and partnership careers have greatly diminished, with uncertainty, diversity and non-linearity being increasingly common markers of contemporary life-course development. From the perspective of macro theories such as the Second Demographic Transition or Beck's 'risk society', we could read such patterns as being evidence of a rise in individualisation and 'choice' at the expense of the traditional ties, commitments and constraints, including those of the family itself. Certainly, the past decades have witnessed a profound increase in women's involvement in higher education and the waged labour market, a development that goes hand in hand with greater life-course autonomy and reduced dependency on patriarchal forms of family (Phillipson and Allan 2004).

Yet, to plainly read the growth in separation and divorce rates, and the interlinked proliferation of single-person households, as evidence of a weakening of linked family lives would be wrong. Indeed, the separation of a co-residential family will rarely, if ever, herald the start of a newly individualised life free from the ties and constraints of disbanded family members and their accumulated life-course histories. Rather, in the sections that follow, we use the case of separation among families with children to emphasise the continued importance of linked lives, and broader social, institutional and geographical structures, for shaping and constraining spatial (im)mobility in contemporary society. To provide the background for this case, it is first necessary to discuss the linked decision-making and outcomes associated with who is to leave or stay in the family home at separation, with an acknowledgement of the ways in which linked family lives can often intersect with broader structural forces (e.g. gender and care-giving expectations, constraints on social housing access and housing-market contexts) to shape outcomes. Thereafter, we consider the role of post-separation linked lives and spatial constraints, and the balancing of different

locational trade-offs within different, geographically defined, opportunity structures.

Separation and spatial (im)mobility

Almost unique among the many forms of spatial mobility performed by individuals or 'intact' households,¹ the enactment of co-residential separation demands that at least one ex-partner leaves the joint home. When one ex-partner stays in the home, the other must move out; alternatively, where one ex-partner decides to move out, the other need not necessarily follow suit. And in further cases, both ex-partners may prefer to stay, though ultimately be required to move. The linking of lives, opportunities, decisions and outcomes is thus immediately apparent; what's more, it is also clear that a non-trivial share of post-separation relocations will be non-volitional in nature.

On deciding to dissolve a co-residential partnership, Mulder and Wagner (2010) suggest a linked decision-making process begins, wherein ex-partners engage in a balancing and bargaining over the relative costs of one, other or both moving out. The costs implicit in the decision-making process can be monetary – associated with the ability to maintain the joint home independently or to bear the costs of relocation to a new property. Non-monetary costs can also exist, linked for example to the social and emotional costs of leaving the joint home and breaking with accumulated location-specific capital (e.g. social networks, daily routines and emotional attachments). In some cases there may also be disparate benefits (or reduced costs) to relocation, for instance where ex-partners seek co-residence with a different partner, escape domestic abuse and/or desire a fresh start in a new location (Schier 2015). Attempts to realign a newly 'individualised' locational preference, now that intra-couple compromise on location is no longer necessary, could also encourage relocations away from the joint home (Cooke *et al.* 2016). Thus, for some, separation may indeed provide the opportunity to realise a ('choice-driven') pre-separation desire for mobility.

Yet, the costs of moving from the former joint home tend to be greater than those of staying, at least in terms of the immediate housing circumstances. According to the Divorce in the Netherlands survey, 30 per cent of those who leave the former joint home reported that the housing outcome of the divorce was to their disadvantage, whereas this same statistic was just 7 per cent for those who remained in place (Mulder and Wagner 2012). In cases where the costs of moving are greater than those of staying for both ex-partners, Mulder and Wagner (2010) have argued that a solution will tend to be reached through the identification of the ex-partner whose relative costs of leaving are lowest.

This seemingly 'rational' and mutually determined decision-making process will be complicated by a multitude of moderating factors, including the influence of resource-based inequalities operating between ex-partners (Cooke 2003; Mincer 1978). Partners with access to greater relative resources (e.g. income, educational attainment and/or age) should be better positioned to maintain the joint home independently, as well as hold greater levels of self-determination within a bargaining process (Mulder and Malmberg 2011; Mulder and Wagner 2010). Moreover, where ownership or tenancy rights are solely held, the contracted ex-partner has clear advantages when it comes to retaining their position in the former joint home (Feijten and Mulder 2010; Mulder and Wagner 2012). As such, within-couple resource-based inequalities will typically frame post-separation linked decision-making, and thus the degree to which individual (im)mobility outcomes can be deemed as choice- or constraint-driven.

Linked lives and interactions with social, institutional and geographical structures

Normative expectations

A variety of long-running and interlinked trends, including those of increased female participation in waged labour, the rise of fathers' involvement in childcare, a broader acceptance of social diversity and the weakening of patriarchal forms of family, are thought to have challenged and destandardised traditional notions of the family, and the expectations of mothers and fathers therein. While roles of mothers and fathers, and the ways in which they come to be embodied and are practised, are fluid, diverse and interact with factors such as class, ethnicity and sexuality (McDowell 1999; Murray 2008), normative conventions and institutions continue to encourage basic distinctions between mothers and fathers both prior and subsequent to separation. Despite considerable change, gendered care-giving assumptions and differences in the rates, and earnings, of men and women in paid employment remain (Phillipson and Allan 2004; Ponthieux and Meurs 2015). As such, women continue to hold the vast majority of pre- and post-separation childcare responsibilities (Harris-Short 2011) – in the UK 91 per cent of lone-parent households are headed by women (ONS 2015).

An acknowledgement of histories of patriarchy and gender inequality is certainly not new to the study of decision-making and outcomes in family migration. Distinctions between men and women across many social and economic domains have been shown to encourage situations where, for women to hold equal say in mobility decisions, relative resources (e.g. income, education and age) must be stacked heavily

in their favour (Boyle *et al.* 2001; Clark and Huang 2006; Cooke *et al.* 2009; Mulder *et al.* 2012). However, in the context of family separation, qualitative research has suggested that the wellbeing of children often supersedes such 'intra-couple' issues. That is, where practically possible, serious attempts will be made to avoid further upheavals associated with the relocation of children away from the former joint home (Bakker and Mulder 2013; Gram-Hanssen and Bech-Danielsen 2008). In this case, dependent on financial capacity, and perhaps independent of intra-couple relative resources, mothers could be expected to have a greater likelihood of remaining in the family home, with their child(ren), while fathers subsequently leave. Of course, our empirical approach cannot provide a detailed analysis of the disparate mechanisms, power relations and compromises operating between the linked lives of mothers, fathers and their children. However, crucially, it is possible to identify cases where resource-based inequalities and pre-separation preferences to move/stay appear contradicted – in ways that match the expectations of normative care-giving responsibilities and prescribed desires to avoid relocating children – by (im)mobility outcomes.

Institutional influences and geographical contexts

Normative conventions and expectations are often reflected, and indeed reinforced, by the rules and regulations of disparate institutional actors (Amin and Thrift 2002), with the case of separation among couples with children being one where such influences may be particularly apparent. Indeed, in the UK context, the Children Act 1989 and the Family Law Act 1996 are designed to prioritise children's welfare in the event of family separation (Lowe and Douglas 2015). In emphasising children's welfare, such laws tend to reinforce the role and rights of the primary caregiver, a fact that can further improve their chances of continued residence with the child, in the family home. Yet, despite legal acts and institutional actors having the ability to hold influence over all separations involving children, their influence can be expected to vary depending on the specific settings studied.

Representing 17.4 per cent of the housing stock in England and Wales (ONS 2015), the social housing sector is one where demand far outstrips supply,² such that in 2012 there were 1.8 million families on the waiting list for social housing in England alone (DCLG 2014). As such, the risk of moving out of the home at separation can conflate with the risk of exiting the subsidised social housing sector altogether. As noted by Stone *et al.* (2014), since the Housing Act 1977 the institutions governing access to social housing are duty bound to provide housing to homeless families with dependent children. In this context, a combination of chronic shortages, strict rules of access, legal

requirements to ensure children's wellbeing and the overwhelming likelihood of mothers to provide primary post-separation childcare could cement mothers' rights to remain in the socially rented home. Under such circumstances, separating fathers will be particularly likely to have to sacrifice their place in the sector, with potentially serious repercussions in terms of housing instability and subsequent residential wellbeing.

Outside of social housing, separating families are subject to private-market structures. From a very general perspective, when compared with owner-occupied housing, private rental accommodation in the UK is associated with low transaction costs, short-term tenancy (6–12 month contracts), low rates of attachment, a typically lower standard of dwelling and, linked to this, high rates of turnover. Subsequently, the costs of moving out are likely to be less for private renters than they would otherwise be for homeowners (or those in social housing). Yet, the geography of spatially differentiated housing markets will represent an additional layer of complexity and structure. Indeed, the uneven spread of housing, coupled with strong and long-lasting contrasts in local/regional housing-market dynamics, means that linked decision-making processes, relative costs and their subsequent outcomes are likely to vary depending on the location studied. Tight and expensive markets can constrain opportunity structures (Mulder and Hooimeijer 1999), including the possibility of remaining in the family home. Where house prices are particularly high and/or have risen strongly, the costs associated with buying the other partner out of their share of the home can result in the inability of either partner staying (Mulder and Wagner 2010). With purchase prices tending to correlate with rental prices, private renters could similarly struggle to maintain independent tenancy in expensive housing contexts. As such, linked lives can be expected to intersect with important social, institutional and geographical structures in ways that fundamentally shape initial (im)mobility outcomes, and quite often in ways that run opposite to those preferred prior to separation.

Linked lives and post-separation spatial constraints

Free from links to the ex-partner, separation could provide individuals with the opportunity to move more freely, and to satisfy their own (now less-compromised) place-based preferences for such things as occupational careers, lifestyle or repartnering (Cooke *et al.* 2016). This expectation would certainly support the narratives of self-articulation, individualisation and the empowering qualities of mobility discussed above. Yet, in the context of separation among families with children, the simple severing of family ties, and the spatial

constraints they imply, is unlikely. Indeed, where regular physical contact with child(ren) and the sharing of parental responsibilities demand geographical proximity between the members of the disbanded family, separated parents will often be determined to coordinate their post-separation residential locations (Bakker and Mulder 2013; Cooke *et al.* 2016; Stjernström and Strömberg 2012).³

Thus, from a life-course perspective, the event of family dissolution should rarely produce considerable individualisation and self-determination in mobility careers; rather, social and spatial ties can be expected to reach across households in ways that continue to link disbanded families and their residential locations. However, while the realisation of post-separation familial proximity may bring certain benefits, it will also necessitate a degree of spatial constraint among separated parents – with moves away for other important life-course domains naturally restricted. The balancing of this locational trade-off could have potentially long-lasting implications for individual and family life-course development and post-separation recovery processes, where prioritising family proximity could limit opportunities for moves into new partnerships or improved occupational positions, and vice versa.

Gender, parenthood and post-separation residential (re)location

As with the decision to move out, important distinctions between mothers and fathers can also be expected in the configuration of post-separation linked lives, proximity and associated spatial constraint. The uneven distribution of post-separation care-giving responsibilities may be thought particularly relevant here. With mothers vastly overrepresented as lone parents and primary caregivers, their residential (re)locations will typically demand a greater consideration of the child (ren)'s needs. That is, the relocation of the primary caregiver carries a greater potential for disruption to children, with moves away potentially impacting on schooling and access to friendship networks (Bailey *et al.* 2004; South and Haynie 2004). Thus, while both parents may be inclined to remain in close proximity and avoid relocations away, unevenness between separated mothers and fathers can be expected. With that said, the relationship between gender, parenthood and post-separation (re)locational needs will likely be stratified by a range of intervening factors, with occupational/educational attainment expected to be of particular relevance.

Long-standing human capital theories suggest that individuals with high attainment operate within more spatially extensive labour markets and tend to enjoy greater financial returns to long-distance migration (Börsch-Supan 1990). Individuals with high levels of human capital should find moves away more attractive,

and familial proximity more constraining, due to the potential for better returns on their skills. Yet, even for those with high levels of human capital, distinctions between separated mothers and fathers may still emerge. Indeed, the need to manage a fair (time-space) balance between care-giving responsibilities and maintaining a professional career could disproportionately limit the locational choice-sets of mothers in particular (Boterman and Bridge 2015). Where fathers tend to have less influence in the childcare and domestic spheres, their *relative* prioritisation of proximity to the family may be lower, their investment in the waged labour market higher and their choice of alternative locations improved. In this context, we could expect fathers, particularly those with high human-capital attainment, to more readily increase the distance to the former partner. Under the assumption that mothers and fathers experience uneven spatial constraints, we could also expect the formation of new partnerships to be associated with greater distances for fathers than mothers. That is, fathers may be more willing/able to move over longer distances in pursuit of new partners than mothers.

While our points thus far have focused on the characteristics of the separated partners, the configuration and experience of post-separation linked lives and constraints will be formed in relation to geographically defined opportunity structures. Spatial disparities in the stock and diversity of occupational, housing, partnership and, in this case, childcare and schooling options can be thought particularly relevant for determining post-separation (re)locational options. Indeed, more densely populated urban areas are likely to offer the necessary stock and diversity that can enable familial proximity and the balancing of disparate locational needs. However, for those who separate in more sparsely populated locations, fewer opportunities and greater demands for trade-offs may compromise parents' desires/abilities to remain in close proximity. Likewise, we may expect the constraints of particularly tight and expensive local housing markets to also work in restricting opportunities for finding and securing suitable accommodation within close proximity. Thus, far from marking the start of greater self-articulation and individualisation in mobility behaviour, family dissolution is likely to mark the start of a period of continued spatial coordination, familial proximity and spatial constraint, which is further shaped by the external conditions of geographically defined opportunity structures. We now describe the data and methods used to test these expectations.

Data and methods

With dominant theories emphasising the pervasiveness of mobility, and the rise of self-articulation and

individualisation at the expense of traditional institutions including the family, we use the case of separations among families with children to caution against the oversight of interactions between (im)mobility, linked family lives and broader structuring forces. As such, our empirical analysis demands detailed geocoded information on individuals and households, both before and after separation. Subsequently, we draw data from Waves 1–18 of the British Household Panel Survey (BHPS) (Taylor *et al.* 2010) with Special Licence Access 2001 Lower Super Output Area (LSOA) geocodes (ISER 2014). The longitudinal survey comprises a broad range of questions on individual ($n \approx 10\,000$) and household ($n \approx 5000$) socio-economic and demographic characteristics, and offers an excellent opportunity to study the preceding characteristics and subsequent outcomes of spatial (im)mobility among separating families with children. The analyses presented below are based on GB samples of two-sex co-residential couples with children, who are known to separate between time point t (wave prior to separation) and $t+1$ (wave subsequent to separation). Of the 634 two-sex co-residential couples with children that are known to separate between t and $t+1$, 408 are tracked. In agreement with previous checks on separation and attrition in the BHPS (Brewer and Nandi 2014; Fisher and Low 2012), our comparison of tracked and attriting ex-couples suggests that, once observed controls for socio-economic status are included (e.g. housing tenure, marital status and employment status), the sample is reassuringly robust to attrition.⁴ Observed predictors of attrition are included in the analytical models.

Our initial analysis is designed to reveal how linked family decision-making and characteristics intersect with broader social, institutional and spatial structures in ways that shape and constrain opportunities to leave or remain in the former family home. Given the expectation that mothers and fathers will be affected differently by the decision to separate, we calibrate a multinomial logistic regression model with the dependent variable indicating whether the father moves out, mother moves out or both move out.⁵ Furthermore, to identify the importance of relative resources we include measures of: percentage male share of ex-couple gross income; age difference relative to the woman (negative values imply the man is younger); employment configuration (both employed, father employed, mother employed, neither employed) and housing contract configurations (both in contract, father in contract, mother in contract, neither in contract) based on ownership or tenancy.

To get a handle on the influence of broader institutional and geographical structures, we include a measure of housing tenure type and housing-market context. For the latter, we use the BHPS Special Licence Access geocodes to differentiate separations that take place in

locations (Middle Super Output Areas (MSOAs) for England and Wales, Intermediate Zones (IZs) for Scotland) that are in the top 10 per cent most expensive in their given region (Government Office Regions, GORs) – based on median house-price data (averaged over the period 1995–2009) from the Land Registry and the Registers of Scotland (ONS 2016). MSOAs and IZs are the lowest level of geography for which house price data are released in the UK. As part of the UK Census Output Area geographies (Martin 2002), MSOAs and IZs are consistently sized small-area geographies that contain between 2500 and 15 000 individuals. Preliminary sensitivity analyses were performed to check the implication of using different relative house-price cut-off points; only when we used the top 10 per cent most expensive MSOAs/IZs did we observe appreciable variations in our outcome variables.

Critically, as a novel means of attempting to measure constraint-driven (im)mobility, we include a variable indicating pre-separation mobility preferences (using individual responses to the question: ‘If you could choose, would you stay here in your present home or would you prefer to move somewhere else?’). From this we are able to detect the degree to which (im)mobility outcomes fit with pre-separation preferences. From the initial 408 separating couples with children, item non-response on the aforementioned variables means we achieve a final analytical sample of 354 ex-couples (Table 1).

Our second model is designed to reveal how the post-separation residential proximity of separated parents can differ according to specific individual, ex-couple and contextual characteristics linked to the balancing of mothers’ and fathers’ various life-course concerns and locational trade-offs. We run a linear regression model where the dependent variable is derived by calculating the Euclidian distance (in log kilometres), using the Pythagorean formula, between centroids of the areas of residence of both ex-partners at $t+1$. The areas of residence are recorded at the level of Lower Super Output Areas (LSOAs) for respondents in England and Wales and Data Zones (DZs) for respondents in Scotland (Martin 2002). Nesting into MSOA/IZ geographies, LSOAs and DZs are detailed geographical identifiers; approximate to neighbourhoods, they are designed to be stable over time and consistent in size, containing a minimum of 500 and a maximum of 3000 individuals. In cases where both ex-partners remain in the same LSOA or DZ, we estimate the between-ex-couple distance using the intra-zonal distance calculation of Batty (1976). Stillwell and Thomas (2016) show this to be a reasonable approximation at such detailed geographical scales.

In order to identify the ways in which accumulated life-course histories and subsequent developments can influence the locational needs and trade-offs of

Table 1 Analytical samples of separating couples with children: descriptive statistics

	<i>Separating couples with children: initial (im)mobility decision</i>	<i>Separated couples with children: the distance between ex-partners</i>
Independent variables		
Marital status (ref: Married)		
Cohabiting (%)	27.12	26.83
Age of woman (years) mean (SD)	33.49 (8.44)	33.71 (8.54)
Age difference (years relative to female) mean (SD)	2.71 (5.84)	
Male share of income (%) mean (SD)	66.27 (29.40)	
Housing tenure (ref: Homeowner)		
Social rented (%)	25.14	24.70
Private rented (%)	12.15	11.59
Housing contract (ref: Both in contract)		
Male in contract only (%)	12.71	
Female in contract only (%)	18.08	
Neither in contract (%)	1.13	
Employment configuration at separation (ref: Both working)		
Neither working (%)	9.89	9.76
Male working, Female not working (%)	22.88	20.73
Male not working, Female working (%)	7.91	8.23
Pre-separation preference for relocation (ref: Both prefer to stay)		
Both prefer move (%)	29.94	28.66
Male pref. move, Female pref. stay (%)	16.38	16.77
Male pref. stay, Female pref. move (%)	14.69	15.24
Post-separation repartnering (ref: Neither in new couple)		
Male new couple (%)		20.12
Female new couple (%)		13.41
Both new couple (%)		2.44
Child(ren) in household pre- and post-separation (ref: Only female ex-partner has child(ren) at $t+1$)		
Only male ex-partner has child(ren) at $t+1$ (%)		6.40
Both have child(ren) at $t+1$ (%)		31.10
Neither have child(ren) $t+1$ (%)		1.52
Household education configuration at separation (ref: Both no degree)		
Both degree		3.96
Male no degree, Female degree		4.88
Male degree, Female no degree		6.71
Post-separation relocation (ref: Male ex-partner moves out)		
Female moves out		28.66
Both move out		17.99
Top 10% median house price neighbourhood (ref: No)		
Yes (%)	5.37	5.18
Separation in London (ref: Rest of Britain)		
Yes (%)		3.66
Population density (log population per hectare) mean (SD)		2.73 (1.51)
Dependent variables		
Who moves out of the former joint home		
Male ex-partner out (%)	51.98	
Female ex-partner out (%)	29.10	
Both ex-partners out (%)	18.93	
Distance between separated parents (log km) mean (SD)		1.25 (1.63)
n ex-couples	354	328

Source for microdata: ISER 2014. Source for England and Wales house price data: ONS 2017 Median house price by middle layer super output areas - HPSSA Dataset 2 (<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/hpssadataset2medianhousepricebymsoaquarterlyrollingyear>). Source for Scottish house price data: Registers of Scotland 2017 Number of house sales and value by quartile (<http://statistics.gov.scot/data/house-sales-prices>). Authors' own calculations

post-separation families, we collect information on educational attainment, pre-separation employment status, pre-separation preferences for relocation and post-separation repartnering. Again, an expectation for differences between mothers and fathers means that the variables are designed to provide relative measures of these pre- and post-separation characteristics (see

Table 1). As we identify in preliminary analysis,⁶ the presence of children provides the rationale for maintaining close post-separation proximity – parental ex-couples maintain greater post-separation proximity than non-parental ex-couples. However, a measure of which separated parent(s) (both, mother only, father only or neither) is co-resident with their child(ren) at

$t+1$ is necessary for determining the constraining effect of balancing primary care-giving responsibilities with other post-separation life-course-related locational concerns.

Beyond these micro-level attributes, a series of contextual characteristics are also collected. These include measures identifying those who separated in the most expensive (10%) neighbourhoods, as well as in London, where opportunities to find suitable housing in close proximity may be uniquely constrained. Where spatial disparities in the stock and diversity of occupational, housing, repartnering, childcare and schooling options are likely to be crucial in defining opportunities to balance various post-separation locational needs with familial proximity, we include a measure of population density (log population per hectare) at the pre-separation location (using MSOA/DZ). It was briefly mentioned that the location of broader networks of related individuals (i.e. grandparents) will also likely influence parents' locational choice after separation; unfortunately the BHPS does

not record this information regularly enough to enable a sufficient sample size to be drawn. Following item non-response on the additional variables, the second analytical sample is reduced to 328 ex-couples with children (Table 1).

Analysis

Leaving or staying in the family home

Table 2 presents the findings of the multinomial model indicating the estimated log-odds of male, female or both ex-partners leaving the family home. To aid interpretation, Figure 1 provides the estimated probabilities and their associated 95 per cent credible intervals. In general, the probability of both ex-partners moving out of the family home remains consistently low regardless of the characteristics modelled. This observation fits with the expectation that, when it is financially and practically possible to remain in the home, the various costs of moving often outweigh those of staying. It also agrees with the expectation that

Table 2 Who moves out of the former joint home among families with children (ref: Male ex-partner moves out)

Variable	Female ex-partner out				Both ex-partners out			
	Coef.	S.E.	CI (2.5%)	CI (97.5%)	Coef.	S.E.	CI (2.5%)	CI (97.5%)
Constant	−0.633*	0.270	−1.169	−0.104	−1.501*	0.338	−2.177	−0.849
Marital status (ref: Married)								
<i>Cohabiting</i>	−0.041	0.399	−0.812	0.751	0.416	0.382	−0.349	1.158
Age of woman (centred at 34 years)	0.036*	0.021	−0.004	0.077	−0.039	0.024	−0.087	0.008
Age difference (relative to woman)	0.082*	0.027	0.028	0.135	−0.002	0.030	−0.062	0.058
Male share of income (% centred at 60)	−0.011	0.007	−0.025	0.003	−0.019*	0.008	−0.036	−0.004
Housing tenure (ref: Homeowner)								
<i>Social rented</i>	−1.113*	0.433	−1.986	−0.285	−0.910*	0.437	−1.775	−0.082
<i>Private rented</i>	−0.660	0.524	−1.700	0.326	−0.733	0.526	−1.803	0.291
Housing contract (ref: Both in contract)								
<i>Male in contract only</i>	1.701*	0.453	0.817	2.589	0.804	0.551	−0.289	1.890
<i>Female in contract only</i>	−1.576*	0.568	−2.778	−0.547	−0.271	0.431	−1.112	0.576
<i>Neither in contract</i>	0.060	1.618	−3.360	3.059	0.034	1.595	−3.456	2.862
Employment configuration (ref: Both working)								
<i>Neither working</i>	1.512*	0.597	0.349	2.693	0.645	0.600	−0.532	1.832
<i>Male working, Female not working</i>	0.270	0.448	−0.604	1.150	0.725	0.498	−0.257	1.736
<i>Male not working, Female working</i>	−0.047	0.641	−1.288	1.185	−0.456	0.717	−1.947	0.899
Pre-separation preference for relocation (ref: Both prefer to stay)								
<i>Both prefer move</i>	−0.098	0.352	−0.778	0.597	0.903*	0.383	0.181	1.673
<i>Male pref. move, Female pref. stay</i>	−0.352	0.416	−1.189	0.449	0.273	0.480	−0.683	1.188
<i>Male pref. stay, Female pref. move</i>	−0.071	0.418	−0.885	0.743	0.237	0.508	−0.819	1.199
Top 10% median house price neighbourhood (ref: No)								
<i>Yes</i>	0.100	0.649	−1.191	1.378	1.128*	0.674	−0.266	2.415
Deviance information criterion	702.803							
Pseudo degrees of freedom	34.663							
<i>n</i> : ex-couples	354							

*Indicates Bayesian-p level > 95 per cent. Model estimated using the Bayesian Markov chain Monte Carlo estimation procedures of the MLwiN software (Browne 2015)

Source for microdata: ISER 2014 British Household Panel Survey, Waves 1–18, 1991–2009: Special Licence Access, Census 2001 Middle Layer Super Output Area [SN: 7446] Institute for Social and Economic Research University of Essex, Colchester. Source for England and Wales house price data: ONS 2017 Median house price by middle layer super output areas - HPSSA Dataset 2 (<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/hpssadataset2medianhousepricebymsoaquarterlyrollingyear>). Source for Scottish house price data: Registers of Scotland 2017 Number of house sales and value by quartile (<http://statistics.gov.scot/data/house-sales-prices>). Authors' own calculations

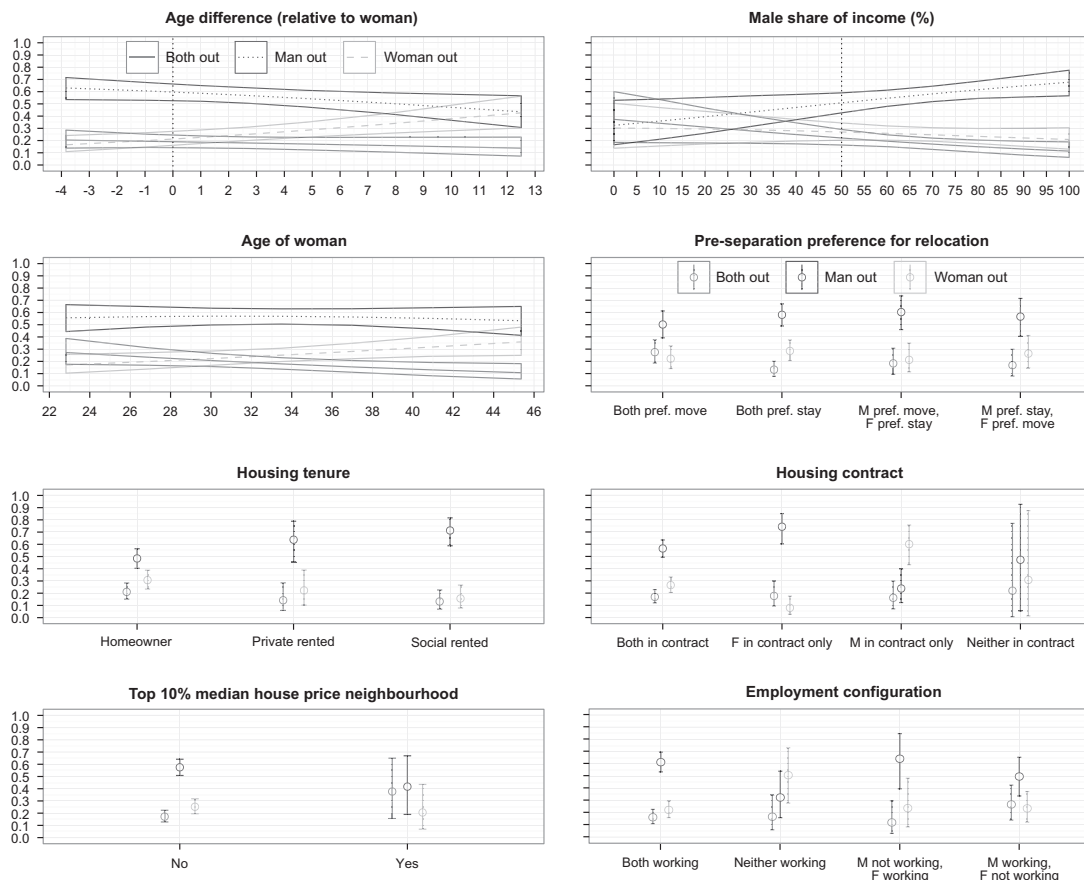


Figure 1 Predicted probabilities (covariates at mean) for who moves out at separation (M = male ex-partner; F = female ex-partner)

Source for microdata: ISER 2014 British Household Panel Survey, Waves 1–18, 1991–2009: Special Licence Access, Census 2001 Middle Layer Super Output Area [SN: 7446] Institute for Social and Economic Research University of Essex, Colchester. Source for England and Wales house price data: ONS 2017 Median house price by middle layer super output areas - HPSSA Dataset 2 (<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/hpssadataset2medianhousepricebymoquarterlyrollingyear>). Source for Scottish house price data: Registers of Scotland 2017 Number of house sales and value by quartile (<http://statistics.gov.scot/data/house-sales-prices>). Authors' own calculations

parents seek to maintain their child(ren)'s presence in the family home, which naturally requires one of the parents to also remain. A particularly low incidence of both ex-partners moving out of the home is observed when the dwelling is socially rented. This finding presumably links to the attractiveness of maintaining subsidised rents in a sector of high demand and low supply, as well as the legal requirements that demand the protection of children's welfare and their access to housing. The propensity for both ex-partners to leave the family home is somewhat higher in cases where separations occur in the most expensive local housing markets (top 10% of MSOAs/DZs regionally) and where pre-separation preferences for mobility existed for both parents.

With a consistently low probability of both parents leaving the former joint home, it is important to identify the differences in the characteristics of those who stay and those who leave. Almost regardless of resource-based intra-couple inequalities and housing conditions, fathers are more likely to leave the family home than mothers. For instance, in ex-couples where the father is younger than the mother, their probability of leaving is noticeably higher than in couples where the mother is older than the father. It is only when fathers are considerably older that we observe the average probability of leaving to be comparable between genders. Somewhat equivalent asymmetric patterns are found with regards to the male share of income, where the propensity for fathers to leave the

home is actually higher when they have a greater share of the combined household income. The parent with sole ownership/tenancy is more likely to remain in the home, with the un-contracted partner being considerably more likely to leave. Yet, despite the obvious legal security offered by sole ownership/tenancy rights, even here there appears evidence of gender distinctions in the probability of leaving the joint home. That is, when the mother has the sole rights to the property, fathers tend to have higher probabilities of moving out than when the roles are reversed. When both partners own or rent the property, fathers are again more likely to

move out. The imprecision of the estimates for cases where neither parent is in the contract is due to the rarity of this configuration.

With regards to the housing type, we find the difference between mothers and fathers in the propensity to leave the home to be smallest for homeowners. The cost associated with buying the other partner out of their share of the home is one possible factor behind this more equal propensity for mobility. Indeed, in the private rental sector, where transaction costs are low and tenancy short-term, fathers are again considerably more likely to leave. Meanwhile, for the social housing

Table 3 Linear regression model for the distance between separated parents (log km)

Variable	Coef.	S.E.	CI (2.5%)	CI (97.5%)
Constant	1.552*	0.262	1.044	2.065
Marital status (ref: Married)				
<i>Cohabiting</i>	0.022	0.210	-0.400	0.430
Age of woman (centred at 34 years)	0.007	0.013	-0.018	0.033
Child(ren) in household pre- and post-separation (ref: Only female ex-partner has child(ren) at $t+1$)				
<i>Only male ex-partner has child(ren) at $t+1$</i>	-0.238	0.391	-1.012	0.519
<i>Both have child(ren) at $t+1$</i>	-0.487*	0.236	-0.938	-0.029
<i>Neither have child(ren) $t+1$</i>	0.668	0.741	-0.790	2.105
Post-separation repartnering (ref: Neither in new couple)				
<i>Male new couple</i>	0.975*	0.274	0.446	1.502
<i>Female new couple</i>	0.034	0.272	-0.503	0.566
<i>Both new couple</i>	2.314*	0.578	1.179	3.451
Post-separation relocation (ref: Male ex-partner moves out)				
<i>Female moves out</i>	-0.096	0.226	-0.542	0.340
<i>Both move out</i>	0.571*	0.244	0.098	1.048
Pre-separation preference for relocation (ref: Both prefer to stay)				
<i>Both prefer move</i>	0.393	0.217	-0.035	0.821
<i>Male pref. move, Female pref. stay</i>	-0.174	0.254	-0.680	0.316
<i>Male pref. stay, Female pref. move</i>	-0.234	0.260	-0.750	0.273
Education configuration at separation (ref: Both no degree)				
<i>Both degree</i>	0.478	0.455	-0.409	1.372
<i>Male no degree, Female degree</i>	-0.263	0.412	-1.046	0.561
<i>Male degree, Female no degree</i>	0.463	0.357	-0.236	1.172
Employment configuration at separation (ref: Both working)				
<i>Neither working</i>	0.390	0.340	-0.291	1.056
<i>Male working, Female not working</i>	0.119	0.238	-0.351	0.585
<i>Male not working, Female working</i>	0.188	0.329	-0.455	0.837
Housing tenure (ref: Homeowner)				
<i>Social rented</i>	-0.141	0.252	-0.639	0.352
<i>Private rented</i>	0.284	0.303	-0.309	0.875
Top 10% median house-price neighbourhood (ref: No)				
<i>Yes</i>	0.313	0.406	-0.488	1.117
Separation in London (ref: Rest of Britain)				
<i>Yes</i>	0.649	0.471	-0.253	1.587
Population density (log population per hectare)	-0.250*	0.060	-0.369	-0.134
Residual variance	2.313	0.186	1.972	2.701
Deviance information criterion	1230.899			
Pseudo degrees of freedom	25.900			
n : ex-couples	328			

*Indicates Bayesian-p level > 95 per cent. Model estimated using the Bayesian Markov chain Monte Carlo estimation procedures of the MLwiN software (Browne 2015)

Source for microdata: ISER 2014 British Household Panel Survey, Waves 1–18, 1991–2009: Special Licence Access, Census 2001 Middle Layer Super Output Area [SN: 7446] Institute for Social and Economic Research University of Essex, Colchester. Source for England and Wales house price data: ONS 2017 Median house price by middle layer super output areas - HPSSA Dataset 2 (<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/hpssadataset2medianhousepricebymsoaquarterlyrollingyear>). Source for Scottish house price data: Registers of Scotland 2017 Number of house sales and value by quartile (<http://statistics.gov.scot/data/house-sales-prices>). Authors' own calculations

sector, our discussion on the combination of gender and institutional influences appear justified. The propensity to leave the socially rented home is particularly low for women and particularly high for men. The dominant pattern of fathers leaving and mother staying is found to reduce somewhat when we focus on particular housing-market contexts. Separations that occur in the most expensive neighbourhoods reveal more gender equal (im)mobility outcomes. The high costs associated with independent ownership/tenancy and, where relevant, buying the other parent out of their share of the home, are plausible explanations in these particularly tight and expensive housing contexts.

The only case where this general gendered pattern appears reversed is when separations occur in households where neither parent is employed. In such households, mothers are clearly more likely to leave than fathers. While only speculative, the specific combination of low socio-economic status, the pre-eminence of mothers as pre- and post-separation primary caregivers, and restrictive rules of access to state support may bear relevance. Separated mothers from more vulnerable backgrounds are particularly likely to qualify for state support such as emergency access to social housing (Stone *et al.* 2014). In such circumstances, the opportunity for access into social housing may encourage less affluent mothers to leave the family home and enter accommodation in the subsidised and relatively secure social housing sector.

Critically, the general distinction between mothers and fathers is found to persist even in cases where their individual pre-separation preferences for (im)mobility are opposite. Fathers who had a preference to stay prior to separation are observed to maintain high probabilities of leaving, while mothers who had a preference to move show a continued likelihood of staying put. In separations where children are not involved, previous analyses by Gram-Hanssen and Bech-Danielsen (2008), Mulder and Malmberg (2011), Mulder and Wagner (2010), Ongaro *et al.* (2009) and Stone *et al.* (2014), as well as our own preliminary analysis (Online Annex A2), show a far greater degree of gender equality. However, in the context of separations among families with children, linked family lives appear to shape and constrain individual (im)mobility outcomes irrespective of, and often counter to, pre-separation preferences for (im)mobility. We return to these points, and their potential implications, in the concluding section.

Spatial proximity following family dissolution

Beyond this initial outcome, desires for shared parental involvement and physical contact with children were expected to continue to shape parents' subsequent spatial coordination and geographical proximity. The results of our preliminary analysis appear to support

this expectation (Online Annex A3). While variations were found to exist according to the recorded residency of the child(ren) post-separation (i.e. living with mother, father or both), the distance between separated parents was found to be between 1.6 and 2.2 times shorter than for ex-partners without shared children.⁷ Furthermore, variations by the recorded residency of the child(ren) revealed that the shortest distances were associated with couples where both separated parents have their child(ren) resident at $t+1$. Thus, post-separation spatial constraints appear to be particularly pronounced for those who maintain post-separation co-residence with their child(ren).

Focusing in on separated families with children, Table 3 presents the results of the normal response model estimating the distance (log km) between separated parents. Where familial proximity is likely balanced against moves related to other key life domains, we find that the formation of new co-residential partnerships is associated with greater distances between the separated parents. Thus, there is some evidence supporting the idea of a trade-off between maintaining proximity to the former partner and relinquishing the associated constraints in order to form a new partnership. Yet, within this relationship there are differences according to mothers and fathers, with the distance found to be greater in cases where only the father repartners, as compared to when only the mother repartners. While the estimates are unreliable, with wide credible intervals resulting from the small sample, there is some suggestion that similar gender differences exist according to differing levels of educational attainment. While we must avoid overstating these findings, given that they are based on a very small sample, they do fit the notion that mothers are more constrained in their (re)locational behaviour than fathers. Mothers appear, on average, less likely to take up competing opportunities away from the ex-partner and family than fathers.

Beyond the micro-level dynamics, our findings appear to reveal the role of broader opportunity structures in moderating post-separation familial proximity. Where more densely populated locations are likely to offer greater stock and diversity for a whole host of location needs, shorter distances between separated parents are found for those who separated in more densely populated areas. While the estimates for the effect of separating in the most expensive local housing markets, and the London housing market, are unreliable (again accompanied by very wide credible intervals), the direction of the estimates fit with our expectation that opportunities for close proximity are limited in particularly tight and expensive contexts. We also observe increased distances for cases where both parents moved out of the former home following separation, presumably reflecting the increased difficulty associated with the locating and acquiring of two

suitable dwellings, as opposed to just one. Finally, we again observe how individual pre-separation (im)mobility preferences have little discernible effect in moderating post-separation parental proximities.

Conclusion

Western nations have witnessed major social and demographic change over the past six decades. Tying profound shifts in the social and demographic landscape into theories and empirical analyses of population movement has remained difficult. Certainly, where corresponding decades have witnessed declining rates of residential mobility/migration across many Western national contexts, associating processes of modernity with processes of increased mobility becomes problematic. With spatial mobility thought crucial for such diverse issues as individual life-course progression, social mobility and neighbourhood renewal and the efficient functioning of local housing and labour markets, a re-examination of the links between macro-social change, demographic restructuring and spatial (im)mobility is of clear academic and policy relevance.

The contemporary ubiquity of family dissolution, and the corresponding rise of single-person households, is often proposed as one of the clearest articulations of the trend toward social instability, individualisation and the weakening of the family. However, this paper has sought to demonstrate how linked family lives remain very much central to individuals' spatial (im)mobility behaviours and outcomes, even in the context of family dissolution. Thus, paradoxically, family dissolution may be seen as a compelling case of family instability and individualisation and, at the same time, the significance and persistence of the moderating effect of family ties on individual behaviour. Indeed, our analysis supports the assertion that a wider appreciation of the destandardisation of families and life-course pathways, and of non-traditional households, their complex linked lives and associated constraints, will be essential for the development of more realistic explanations of contemporary mobility patterns and processes.

Despite separation being a well-known 'trigger' for spatial mobility, linked lives and structural influences tend to shape and constrain (im)mobility outcomes, and in ways that differ by gender. Almost regardless of the characteristics studied, fathers are more likely to leave the family home than mothers. Crucially, our analysis shows how individual pre-separation preferences for (im)mobility have little influence over subsequent post-separation outcomes: Fathers who had a preference to stay in the home still have high propensities to leave, and mothers who had a preference to leave the home still have a high propensity to stay. The gendered division of pre- and post-separation

childcare, and parental preferences to avoid further disruptions to children, are perhaps the most plausible explanations for this consistent pattern (Bakker and Mulder 2013; Gram-Hanssen and Bech-Danielsen 2008). However, specific institutional and geographical contexts do reveal some moderating effects. In the social housing sector, a combination of institutional rules of access, laws on the protection of children's wellbeing and the overrepresentation of women as caregivers can be thought to encourage the even greater disparities between mothers and fathers. Fathers have very low chances (both in absolute and relative terms) of remaining in the socially rented family home. In the context of increasing restrictions to social housing access, it is fair to assume that many fathers will have to leave the social sector altogether, something that could have long-term repercussions both in terms of their housing careers and post-separation wellbeing. As such, it would be useful for housing practitioners and researchers to engage further with this finding.

Family dissolution will rarely herald the start of a period of individualisation and self-determination in mobility decision-making and outcomes; rather, compared with non-parental ex-partners, separated parents appear to maintain links through closer spatial proximity. Importantly, where post-separation familial proximity will be balanced against other locational concerns, a tendency for separated parents to trade-off moves linked to alternative life-course domains (e.g. repartnering or occupational progression) could work to constrain opportunities for more rapid post-separation recovery. It appears that this trade-off is made easier in particular geographical contexts. Indeed, in more densely populated areas, which will tend to offer a greater stock and diversity in terms of occupational, housing, partnership, childcare and schooling options, we observe closer proximity between separated parents. Yet, important distinctions between mothers and fathers also emerge, with mothers found to be somewhat more constrained in their mobility than fathers. Indeed, mothers appear less able/willing to trade-off familial proximity when forming new co-residential partnerships. We find some suggestion that similar gender distinctions could exist for occupationally driven relocation opportunities, as measured by human capital accumulation, though these results are particularly unreliable. Where the coordination of linked family lives and associated spatial proximity is revealed in the initial period following separation, the use of longer time horizons and larger datasets will be valuable in testing the persistence of post-separation linked family lives, as well as their potential implications in terms of differently limiting the opportunities of mothers and fathers and their post-separation life-course trajectories.

While we have used the clear and compelling case of separation among couples with children to explore the relationship between linked family lives and constrained mobility, our arguments and findings can be expected to apply to other types of mobility as well. We have demonstrated that the housing context is clearly of major importance to the type of move we studied, and in particular to gender differences in moving patterns. It is known that the housing context, and particularly housing tenure, matters greatly for the likelihood of residential mobility and migration; however, the importance of housing to gender inequalities in mobility has hardly been explored, while our findings suggest it may be crucial.

Beyond our focus on family dissolution, a wider recognition of linked family lives and constrained mobility has the potential to offer new insights into other areas of pressing social and geographical scholarship, public debate and government planning. In particular, in an era of prolonged welfare state retrenchment, linked family lives represent an important component within systems of social care and support (Pavolini and Ranci 2008). With the majority of Western nations confronted by rapidly ageing populations, the social and spatial links between elderly parents and adult-child caregivers are expected to become increasingly relevant as coping strategies. Where people bearing these responsibilities are likely to face similar spatial constraints and trade-offs to those discussed above, there is much scope for future analyses of different types of family ties and, more broadly, the social, economic and geographical implications of having a growing number of the working-age population engaged in mobility-restricting family caregiving responsibilities. Indeed, with the increasing availability of detailed longitudinal geocoded datasets (both survey and register-based, and in different countries), researchers interested in these inherently social and geographical processes are well positioned to incorporate considerations of complex linked lives and (im)mobility behaviours into their analyses.

Acknowledgements

The authors thank the three anonymous reviewers for their detailed, insightful and constructive comments. Any errors remain the authors' own. The research for this paper is part of the project 'Partner relationships, residential relocations and housing in the life course' (PartnerLife). Principal investigators: Clara H Mulder (University of Groningen), Michael Wagner (University of Cologne) and Hill Kulu (University of St Andrews). PartnerLife is supported by a grant from the Netherlands Organisation for Scientific Research (NWO, grant no. 464-13-148), the Deutsche Forschungsgemeinschaft (DFG, grant no. WA1502/6-1) and the Economic

and Social Research Council (ESRC, grant no. ES/L0166X/1) in the Open Research Area Plus scheme.

Notes

- 1 Moves associated with residential evictions are a notable exception.
- 2 There are regional differences to the size of waiting lists, though the prevalence of vacant social housing remains very low across the country (ONS 2015).
- 3 The location and support offered by other important linked individuals, for instance grandparents, can also bear influence over the subsequent relocation behaviours of separating parents (Das *et al.* 2016).
- 4 See Online Annex A1.
- 5 Usual checks on the Independence of Irrelevant Alternatives (IIA) assumption for the multinomial model suggest the assumption is valid.
- 6 The results of this analysis are available in the Online Annex A2.
- 7 See Online Annex A3. The estimated average distance between separated parents at $t+1$, holding all other variables at their reference: no children at $t = 6.9$ km; children at t and both have child(ren) at $t+1 = 3.1$ km; children at t and only mother has children at $t+1 = 4.2$ km; children at t only father has children at $t+1 = 3.2$ km.

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Supporting Information

Additional Supporting Information may be found in the online version of this article:

Annex A1. Unweighted descriptives for coresidential couples separating between t and t+1 by survey follow-up status (tracked/attrited).

Annex S2. Preliminary multinomial regression analysis of who moves out of the former joint home: Comparing ex-couples with and without children (ref: Male ex-partner moves out).

Annex S3. Preliminary linear regression analysis of the distance (log km) between ex-partners (including those without children).